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L2: Entry 1 of 1

File: USPT

Jan 15, 2002

US-PAT-NO: 6338858

DOCUMENT-IDENTIFIER: US 6338858 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Topical aqueous gel composition

DATE-ISSUED: January 15, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dupuis; Christine	Paris			FR
Samain; Henri	Bievres			FR
Roulier; Veronique	Paris			FR
Ferrari; Veronique	Maisons-Alfort			FR

US-CL-CURRENT: 424/486; 424/64, 424/65, 424/70.11, 424/DIG.2, 424/DIG.4, 424/DIG.5

## CLAIMS:

We claim:

1. An aqueous solid topical composition comprising an aqueous solid matrix having the appearance of a gel and possessing the following rheological profile:

an initial viscosity at rest  $V_{sub.0}$  which is sufficient to form a solid composition, wherein said viscosity  $V_{sub.0}$  is stable up to a shear strain  $C_{sub.1}$ ,

a viscosity  $V_{sub.2}$  after shear at a strain  $C_{sub.2}$  for which the ratio  $V_{sub.0}/V_{sub.2}$  is greater than or equal to 1000:1,

the difference  $C_{sub.2} - C_{sub.1}$  being less than or equal to 1000 Pa, wherein said aqueous solid matrix comprises at least one hydrophilic gelling polymer, wherein said at least one hydrophilic gelling polymer is a water-soluble or water-dispersible terephthalic copolyester oligomer comprising repeating dicarboxylate units of formula (I):

--CO--A--CO--O--(CH<sub>sub.2</sub> CH<sub>sub.2</sub> O)<sub>sub.n</sub>-- (I)

in which

A represents a 1,4-phenylene, sulpho-1,3-phenylene or 1,3-phenylene group,

n ranges from 1 to 4, and wherein

in at least 35 mol % of said units of formula (I), A represents a 1,4-phenylene group and n is equal to 1,

in at least 7 mol % of said units of formula (I), A represents a sulpho-1,3-phenylene group, and

optionally in up to 20 mol % of said units of formula (I), A represents a

1,3-phenylene group,

wherein the weight-average molecular mass of said copolyester oligomer is less than 20,000.

2. An aqueous solid topical composition according to claim 1, wherein said initial viscosity  $V_{sub.0}$  ranges from 50,000 to 1,000,000 Pa.multidot.s.

3. An aqueous solid topical composition according to claim 1, wherein said aqueous solid matrix has a viscosity  $V_{sub.1}$  at the-starting shear strain  $C_{sub.1}$ , and wherein the ratio  $V_{sub.0} / V_{sub.1}$  is less than or equal to 2.

4. An aqueous solid topical composition according to claim 1, wherein said shear strain  $C_{sub.1}$  is at least 500 Pa.

5. An aqueous solid topical composition according to claim 1, wherein the change in viscosity induced by shear is not immediately reversible.

6. An aqueous solid topical composition according to claim 1, wherein said units of formula (I) for which A represents a 1,4-phenylene group and n is equal to 1 are present in an amount of at least 40 mol %.

7. An aqueous solid topical composition according to claim 6, wherein said units of formula (I) for which A represents a 1,4-phenylene group and n is equal to 1 are present in an amount ranging from 40 to 90 mol %.

8. An aqueous solid topical composition according to claim 1, wherein said units of formula (I) for which A represents a sulpho-1,3-phenylene group are present in an amount of at least 10 mol %.

9. An aqueous solid topical composition according to claim 8, wherein said units of formula (I) for which A represents a sulpho-1,3-phenylene group are present in an amount of ranging from 10 mol % to 25 mol %.

10. An aqueous solid topical composition according to claim 1, wherein said units of formula (I) for which A represents a 1,3-phenylene group are present in an amount up to 20 mol %.

11. An aqueous solid topical composition according to claim 10, wherein said units of formula (I) for which A represents a 1,3-phenylene group are present in an amount up to 5 mol %.

12. An aqueous solid topical composition according to claim 1, wherein said weight-average molecular mass of said copolyester oligomer is less than 15,000.

13. An aqueous solid topical composition according to claim 12, wherein said weight-average molecular mass of said copolyester oligomer ranges from 5000 to 14,000.

14. An aqueous solid topical composition according to claim 13, wherein said weight-average molecular mass of said copolyester oligomer ranges from 8000 to 10,000.

15. An aqueous solid topical composition according to claim 1, wherein said hydrophilic gelling, polymer is present in an amount ranging from 10 to 40% by weight relative to the total weight of said composition.

16. An aqueous solid topical composition according to claim 15, wherein said hydrophilic gelling polymer is present in an amount ranging from 10 to 30% by weight relative to the total weight of said composition.

17. An aqueous solid topical composition according to claim 1, wherein said composition is in a form to be applied to the skin, mucous membranes or the exoskeleton.

18. An aqueous solid topical composition according to claim 1 wherein said composition further comprises a fatty phase.

19. An aqueous solid topical composition according to claim 1, wherein said composition further comprises at least one additive and/or active agent common in dermatocosmetics.

20. An aqueous solid topical composition according to claim 19, wherein said at least one additive and/or active agent is selected from: fragrances; stabilizing agents; UV-A and UV-B sunscreens; hydrophilic and lipophilic antioxidants; chelating agents; .alpha.- and .beta.-hydroxyacids, ceramides, antidandruff agents, antiacne agents, agents for combating hair loss; antifungal and antiseptic agents; active substances of antiperspirant type and bacterial type and odor absorbers; hair fixing material and conditioning material; hair care active agents and skin-reinforcing agents and hair dyes; fillers; dyestuff, gelling material; and silicone gums.

21. An aqueous solid topical composition according to claim 17, wherein said composition is in the form of a body hygiene composition, a hair composition, a make-up composition or a care composition.

22. An aqueous solid topical composition according to claim 21, wherein said make-up composition is a lip composition.

23. An aqueous solid topical composition according to claim 21, wherein said make-up composition is a transfer-free make-up composition.

24. A process for cosmetically treating human skin, a mucous membrane, hair, or exoskeleton, in which an effective amount of at least one composition according to claim 10 is applied to said skin, mucous membrane, hair, or exoskeleton.

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Ferrari; Veronique	Maisons-Alfort			FR

## ASSIGNEE-INFORMATION:

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L'Oreal				FR	03

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FR	97 03119	March 14, 1997

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PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

**Search Selected****Search ALL**

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>3779993</u>	December 1973	Kibler et al.	
<input type="checkbox"/>	<u>4300580</u>	November 1981	O'Neill et al.	132/7
<input type="checkbox"/>	<u>4525524</u>	June 1985	Tung et al.	524/601
<input type="checkbox"/>	<u>5639448</u>	June 1997	Galleguillos et al.	
<input type="checkbox"/>	<u>5849280</u>	December 1998	Rechelbacher et al.	

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
WO 96/03964	February 1996	WO	

## OTHER PUBLICATIONS

Minako Juchi et al., "Cosmetics Containing Polyester Particles", Chemical Abstracts, vol. 120, No. 14, Apr. 4, 1994.

ART-UNIT: 1617

PRIMARY-EXAMINER: Webman; Edward J.

ATTY-AGENT-FIRM: Finnegan, Henderson, Farabow, Garrett & Dunner

## ABSTRACT:

An aqueous solid topical composition comprising a matrix, i.e., an aqueous solid matrix, having the appearance of a gel and possessing the following rheological profile:

an initial viscosity at rest  $V_{sub.0}$  sufficient to form a solid composition, preferably ranging from 50,000 to 1,000,000 Pa.multidot.s, said viscosity  $V_{sub.0}$  being stable up to a shear strain  $C_{sub.1}$ ,

a viscosity  $V_{sub.2}$  after shear at a strain  $C_{sub.2}$  for which the ratio  $V_{sub.0}/V_{sub.2}$  is greater than or equal to 1000:1,

the difference  $C_{sub.2} - C_{sub.1}$  being less than or equal to 1000 Pa,

and which may be useful as a make-up, styling, body hygiene or care composition.

24 Claims, 0 Drawing figures